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SECOND SERIES VOL. IX, No. 8

BULLETIN

OF

THE NEW YORK ACADEMY OF MEDICINE

INCORPORATED 1851

AUGUST, 1933

PUBLISHED MONTHLY BY

THE NEW YORK ACADEMY OF MEDICINE

2 East 103 Street

New York, N. Y.

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BULLETIN OF
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SCURVY—"THE PLAGUE OF THE SEA AND THE SPOYLE OF MARINERS"*

KARL VOGEL

The sailor of the past as he appears to the imagination is usually a rollicking, jolly sort of individual, bronzed by tropic suns, picturesquely garbed, and always ready to drink a dram or spin a yarn of fascinating adventure in southern seas. Such types abound in the pages of fiction, but actually the living conditions at sea were so primitive during the middle ages and even until comparatively recent times that the common seaman had a cruel existence. A naval surgeon of the latter eighteenth century remarks that a sailor of forty-five generally looks fifty-five or sixty, and as late as 1839 the records of the British Registry of Shipping show that of 5,000 seamen only forty-nine appear in employment at the age of sixty. The usual accounts of glorious naval victories or of bold explorations in unknown seas reveal but little of the human suffering that attended them and it is something of a shock to learn of the appalling hardships that were the price of achievement. Overcrowding, cold and wet, lack of cleanliness and ventilation, and above all the monotonous food, often putrid and insufficient, made the life atrociously severe. Captain Luke Fox of Hull, one of the first to attempt the Northwest Passage, in a book with the whimsical title: "Northwest Fox", published in 1635, remarks, "to endure and to suffer, as a hard

*Read before the Section of Historical and Cultural Medicine.

cabbin, cold and salte meate, broken sleepes, mouldy bread, dead beere, wet cloathes, want of fire, all these are within board." In 1629 Sir Henry Mervyn, commanding in the Narrow Seas, wrote to Buckingham "foul weather, naked bodies and empty bellies make the men voice the King's service worse than gallery slavery." John Hollond in a diatribe entitled "The Navy Ript and Ransackt" attacks especially the food: "For the men will, and do run away rather than eat it, and those that do or are forced to stay, contract diseases, sickness, and often death," and in 1703 in a protest to Parliament the complaint was made: "A hot country, stinking meat, maggoty bread, noisome and poisonous scent of bilge water, have made many a brave sailor food for crabs and sharks," while another pamphleteer alleges: "Where we had one man dyed by shot in the Navy we had ten dyed by means of bad provisions." Such unseemly protests no doubt gave much pain to the authorities, and Samuel Pepys whose office had to do with the victualling of the fleet plaintively expostulates: "Englishmen, and more especially seamen, love their bellies above everything else." Surely a sentiment coming with remarkably poor grace from a gentleman himself so addicted to the pleasures of the table. But the victuals must have been pretty awful for Admiral Hawke to describe as "excessively bad" the beer supplied to his ships blockading Brest in 1759, and to object to a fresh supply of bread because it was "full of maggots and weavils"—though he handsomely concedes that it was "not unfit for use." Beer was a routine component of the early sea ration as it largely replaced drinking water, but through the dishonesty of the brewers it was often of infamous quality, became sour and putrid, and was considered responsible for much of the sickness on shipboard, as appears from Sir Walter Raleigh's comment: "In the late Queen's time many thousands did miscarry by corruption of drink as well as of meat." It was this difficulty that finally led to the replacement of beer by wine and rum, till in the first part of the 19th century the brewing of beer for the British Navy was entirely discontinued.

To compensate for the great losses from disease which were regarded as being inevitable, huge crews were carried and the number of men crowded into the early ships is amazing. A hundred gun first rate of the 17th century with a length of less than one hundred and fifty feet would have a war time complement of 700 men, increased to 800 or more if ordered on foreign service. At the other extreme of size the tiny eight gun sloop *Tryal* of Anson's fleet may be mentioned; on leaving Spithead for the famous circumnavigation of 1741 no less than one hundred men had to face the prospect of a cruise of years between her decks.

Consequently infectious diseases spread with fulminating rapidity, as on Sir Francis Drake's voyage to the West Indies in 1585 when in a sudden epidemic two or three hundred men died in a few days and before it ceased six hundred had been buried of a force of twenty-three hundred. In the Portugal expedition of a few years later out of a strength of twelve thousand nearly one-half perished from sickness. Owing to the parsimony of Elizabeth even in an emergency endangering the safety of her kingdom, the fleet opposed to the great Armada was handicapped not only by lack of munitions but also of provisions and other essential supplies so that the men were weakened by exposure and undernourishment. A few days after the Spanish defeat Lord Howard of Effingham, the Lord High Admiral, wrote to Burghley: "Sicknes and mortallitie begin wonderfullie to growe amongst us . . . The Elizabeth which hath don as well as eaver anie ship did in anie service hath had a great infectione in her from the beginning soe as of the 500 men which she carried out by the time she had been in Plymouth three weeks or a month there were ded of them 200 and above." A little later he writes again: "The most part of the fleet is grivouslie infected and die dailie . . . and the ships themselves be so infectious and corrupted as it is thought to be a verie plague . . . manie of the ships have hardly enough men to waie their anchors." The disease is supposed to have been acute enteritis caused by the sour beer.

But man-power was cheap, and the authorities remained callously indifferent to the well-being of the sailors and it was not until the days of the Commonwealth that any real attempt was made to afford ill or wounded seamen proper attention by hospital care ashore. Hammocks were not introduced in the Royal Navy until 1597 and then only in the proportion of one for every two men and were issued solely for foreign service and not to ships in home waters. But in the matter of bunting there was greater liberality for the records show that during many years the outlay for flags was nearly double that for hammocks, and as Oppenheim remarks, this esthetic refreshment must have been a great solace to the weary men.

The inevitable natural dampness of the ships' holds and decks was increased by the custom of frequently scrubbing the decks and flushing them with salt water. In new ships the unseasoned timbers and the pickling solutions in which they were soaked with the idea of preserving them helped maintain an atmosphere of perpetual moisture so that in bad weather when all openings were battened down the men's bodies, bedding, and clothes had no chance to dry for days or weeks. The bilges were sinks of pestilential effluvia generated by all the refuse that found its way to these recesses and instances are reported of carpenters sent to clear the ship's well dying of suffocation from the noxious gases. In some foreign ships it was the custom to bury the dead in the gravel ballast in order that they might be reinterred ashore, and Sir Gilbert Blane states that in the French ships which he observed in the West Indian campaign the bilges were inconceivably putrid and offensive, for owing to the absence of scuppers all the drainage from the lower decks passed into the hold and after an action mangled limbs and even whole bodies were cast into the orlop and remained there in a putrefying state.

In addition there was the rigid and often harsh discipline enforced by punishments of savage severity, and toward the close of the eighteenth century there was an outbreak of numerous and extensive mutinies. Though fomented by

the revolutionary spirit emanating from France and due in part to the stern treatment and underpayment of the men, the character of the provisions was the chief grievance. In the case of the famous uprising at Spithead in 1797 the petition of the mutineers emphasized especially that the provisions were served out of short weight and inferior quality, that no vegetables were issued to ships in port, that the sick were insufficiently cared for and that luxuries intended for them were embezzled, and that men wounded in action were deprived of their wages pending cure or discharge.

But to this multiplicity of woes scurvy added the worst of all. "The Plague of the Sea and Spoyle of Mariners," and as an early writer says "There's few diseases at sea but what the scurvy requires a share in. Preservation from this would free them [the seamen] from the danger of most diseases." Sir Richard Hawkins has much to say on the subject of scurvy, and estimated that during twenty years of his life at sea it had killed 10,000 men. This was notwithstanding the strange fact that the antiscorbutic properties of the citrus fruits and of green vegetables were well-known even then, and indeed from much earlier times. During the voyage of the fleet to the Western Islands in 1590 he had only one man disabled "though many of every other ship fell sick and died apace." He gave his men "sower oranges and limmons," and so did Captain John Smith, for in his famous "Sea Grammar" written in 1627 he includes in his "petty Tally" of provisions "the juyce of limons for the scurvy." An extraordinary experiment in practical therapeutics as well as a demonstration of sagacious statecraft was in preparation when in February 1600 Elizabeth laid the foundations of the British Empire in India by sending four ships down the Thames as the first expedition of the newly chartered East India Company. There were the usual delays at sea and the usual outbreak of scurvy, so that months later when the little fleet reached Table Bay Captain Lancaster of the *Dragon* after bringing his own ship to anchor had to get out his boats and send men aboard each of his consorts to do the like for them as their crews

were too weakened by the disease to make the effort. Of the 278 men on board these ships 105 died, the healthy condition of the *Dragon's* men being due to the fact that their farsighted commander had taken along a supply of lemon juice and given three spoonfuls to each sailor every morning! The antiscorbutic properties of water cress and scurvy grass were also familiar knowledge to the early mariners. The latter was not eaten as a vegetable but was "boyled in beere", which must have made a rather uninspiring refreshment, or "the grasse was pounded, the juice prest forth and put into a hogshead of strong beere."

Dramatic instances of the ravages of scurvy will readily occur to those who have at all followed the literature of the sea. There come to mind at once the tribulations of Magellan's men, those stout fellows who—as many as were left of them—first put a girdle round the globe. After the great adventure of being the first to thread the famous strait, for three months and twenty days—famished and nearly helpless through the horrible disease—they headed westward into the unknown before finally touching land. The story is told by Antonio Pigafetta, a young Italian gentleman who went along because he was "desirous of seeing the wonderful things of the ocean" and probably later much regretted this curiosity for he says: "We held our noses as we drank the stinking water. We ate biscuit, but in truth it was biscuit no longer but a powder full of worms, and in addition it was stinking with the urine of rats. So great was the want of food that we were forced to eat the hides with which the main yard was covered . . . We also had to use sawdust as food and rats became such a delicacy that we paid half a ducat apiece for them." The misery of the scurvy patients was appalling and many died, yet strangely enough he was later able cheerfully to remark "I cannot thank God enough that during all this time and among so many sick I never had the slightest indisposition." Perhaps he managed to secure plenty of the rats. When the little *Vittoria* the sole survivor of the fleet finally rounded up to the old quay at Seville only a sickly handful

were left of those who had set out nearly three years before, but they had been the first to sail around the world.

Seldom has an enterprise of great magnitude been so dogged by misfortune as Lord Anson's famous circumnavigation, and rarely has scurvy been more devastating than when it killed four-fifths of those aboard his ships. Intended as a surprise attack to harry the commerce and possessions of Spain in the Pacific, there was so much delay in fitting out the expedition that the Spanish had ample warning. Men were needed elsewhere in the fleet so that it was difficult to complete the crews of Anson's ships and finally an attempt was made to supply the deficiency by impressing 500 superannuated out-pensioners of Chelsea College. These were mostly cripples and invalids, all of whom who were able to walk promptly deserted so that the 259 of this consignment who ultimately shipped were literally decrepit and from 60 to 70 years of age. By this time the season was so far advanced that when the expedition at last reached the Horn it was during the worst time of the year, gales of terrific violence were encountered, the squadron was scattered, two of the ships returned home and one, the *Wager,* was wrecked. During this period of utmost difficulty and danger scurvy began to appear and six weeks later there were few aboard who were not affected. In the course of the three months that elapsed before land was reached, on the flagship, the *Centurion,* over 200 were buried and there were not left more than six foremast men in a watch capable of duty. The disease must have attained a dreadful degree of severity and the description of the men's condition is horrifying. Old wounds reopened though they had been healed for many years, the callus of a bone broken long before dissolved and left the fracture as if it had never consolidated, and men who still seemed comparatively strong while lying in their hammocks immediately expired on attempting to get up or when being carried from one part of the ship to another. The storms continued even after entering the Pacific so that the weakened crew could barely work the ship and it was evident that a rest ashore was imperative to save the lives

of those that still survived. The Island of Juan Fernandez, the scene of Alexander Selkirk's solitary stay, was the nearest spot available, and, faced by the terrible fact that with five or six men dying every day, in a short time his ship would be left too shorthanded to go about, Anson decided to head directly for the island instead of adopting the usual method of first making the correct latitude east or west of it and then running along that parallel until the land was sighted. To his dismay the island was not found where it was expected to be, and then in doubt whether it lay east or west, Anson sailed west till actually within a few hours of it, but convinced that he was wrong turned eastward till he saw the barren coast of Chile and then had to retrace his course against the wind till at last Juan Fernandez was finally reached. This uncertainty as to the longitude owing to the imperfect methods of navigation then in use wasted twelve days and cost the lives of 70 or 80 men who probably would have recovered if they could have been gotten ashore. By a curious trick of fate, John Harrison the Yorkshire carpenter who became one of the world's greatest horologists, by constructing the first practicable marine chronometer had just devised an easy and accurate method of determining longitude at sea, and if this instrument had been on board of the *Centurion* instead of ticking away in its inventor's house in London, these lives would have been saved. When the remaining vessels of the squadron at last straggled in, of the 961 men who had embarked in England only 335 were still alive. The story of the *Wager's* loss and of the remarkable adventures of the survivors was written by one of her officers, John Byron, grandfather of the poet, who utilized some of these incidents in the second canto of "Don Juan" and compared the misadventures of his hero to "those related in my granddad's narrative." In spite of this calamitous beginning Anson with indomitable courage carried on, united the remnants of his crews on the *Centurion* and did much damage to the Dons. Later scurvy again appeared but none the less the survivors captured the great treasure ship from Acapulco, and when the *Centurion* at length reached England again

her commander had the satisfaction of seeing from two to three million pounds worth of Spanish loot triumphantly paraded in 32 wagons through the London streets.

Until long voyages were undertaken so that crews had to remain for months out of contact with the shore scurvy was not a menace to the mariner, but following the discovery of America and the Indies ships sailed to distant parts of the world and the disease had opportunities to develop. There seems to be no reference to its occurring on the voyages of Columbus, and the first mention of scurvy at sea is in Castanheda's account of the voyage of Vasco da Gama in 1497 when he lost 100 of his 160 men while discovering the passage to the Indies by way of the Cape of Good Hope. That even years later the disease was still not generally recognized is shown by the description in Hakluyt of an epidemic that killed 25 of Jaques Cartier's crew on their voyage to New Foundland in 1535. It is related that in the month of December "an unknowen sicknes began to spread itselfe amongst us after the strangest sort that ever was eyther heard of or seene, insomuch as some did lose all their strength, and could not stand on their feete, then did their legges swel, their sinnowes shrinke as black as any cole. Others also had all their skins spotted with spots of blood of a purple colour; then did it ascend up to their ankels, thighes, shoulders, armes and necke; their mouth became stincking, their gummes so rotten that all the flesh did fall off, even to the rootes of the teeth which did also almost all fall out. With such infection did this sicknesse spread itselfe in our three ships, that about the middle of February of a hundredth and tenne persons that we were, there were not ten whole, so that one could not helpe the other, a most horrible and pitifull case." A masterpiece of concise description, followed by the happy sequel that a cure was finally discovered on shore in the use of a decoction of sassafras bark and leaves; "a singular and excellent remedie against all diseases, the best that ever was found upon earth." An excellent remedy indeed, for it relieved all who were sick

James Lind, M.D. (*1716-1794*)

from any cause, including "some who had bene diseased and troubled with the French Pockes foure or five yeres, and with this drinke were cleane healed."

According to Lind the first description of scurvy by a physician is in a letter sent in 1541 by one Ecthius to Dr. Blienburchius of Utrecht, but not published till some years later. The first book devoted expressly to the disease is by Balduino Ronsseus in 1564, and it is interesting to

find that he refers to the use of scurvy grass, water cress, and other herbs as a remedy and mentions that seamen on long voyages cure themselves of scurvy by the use of oranges. In the course of time there were many additions to the literature on the subject, and Lind in 1753 collected over a hundred titles, the list of authors including such historic names as those of Thomas Willis, Sylvius, Gideon Harvey, Thomas Sydenham, Poupart, Boerhaave, John Huxham and Sir John Pringle. Among the quaintest contributions is one that escaped the eye of Lind, or perhaps because it came from the pen of a poet and soldier of fortune was deemed unworthy of serious notice. George Whetstone or Wateson—he himself spelled his name in four different ways—was a gay Elizabethan gentleman who agreeably combined literature with adventure. After wasting his substance in the approved manner he accompanied Sir Humphrey Gilbert on his ill-fated voyage to New Foundland and then did soldiering in many foreign parts. In the intervals he scribbled busily, producing among other things a play entitled "The Right excellent and famous Historye of Promos and Cassandra" which was the basis of Shakespeare's "Measure for Measure" and also in 1598 what is probably the first work on tropical medicine, entitled: "The Cures of the Diseased in Remote Regions. Preventing Mortalitie incident in Forraine Attempts of the English Nation." Of the "tiñoso or scuruey" he says, "it is so ordinary at Sea as it hath been seldome seene, any Ship or Pinnice, to be foure moneths upon any voyage . . . but some of the Companie have had this Disease." Among the causes he mentions "slothful demenor" and advises as a prophylactic measure "such as are exempted from being commanded to doo labor, to hang by the armes twice or thrice every day," and as a remedy "Beere or white wine or Syder boiled with Graynes and Long Pepper is very singular good" as is also "a pultis of Barley meale more hot than the patient will willingly suffer it." By these and other remedies he avers he cured all but one of eighty who came down with the disease 800 leagues from England.

It is astonishing to find even in the earliest of these

writings with what constant reiteration the juice of lemons or oranges, green herbs such as scurvy grass, brooklime, and water cress, and fresh vegetables are described as specific cures for the disease. For example, in "The Surgeon's Mate" written by John Woodall, Master in Surgery, in 1636, it is stated: "There is a good quantitie of juyce of lemmons sent in each ship out of England by the great care of the merchants and intended only for the reliefe of every poore man in his need, which is an admirable comfort to poore men in that disease . . . The juyce of lemmons is a precious medicine, and well tried; being sound and good let it have the chief place for it will deserve it the use whereof is: It is to be taken each morning, two or three spoonfuls, and fast after it two hours. Some chirurgeons, also give of this juyce daily to the men in health as preservative." The popularity of the measure before the mast was no doubt enhanced by the further considerate suggestion, "and if you add one spoonful of aqua vitae thereto to a cold stomach it is better."

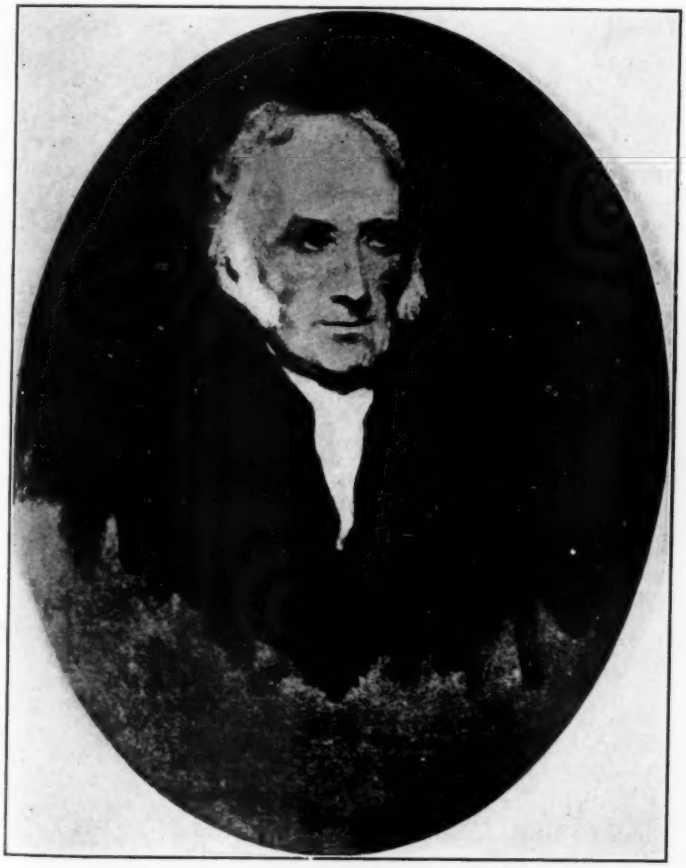
It is one of the mysteries attending the slow progress of civilization why in spite of accumulated knowledge and experience the use of antiscorbutics did not become universal and scurvy continued to be accepted as one of the inevitable accompaniments of life at sea. But toward the close of the 18th century three great naval hygienists, James Lind, Sir Gilbert Blane, and Thomas Trotter, backed by the practical experience of a famous explorer, James Cook, insisted with such emphasis on the necessary reforms that the disease was finally brought under control. James Lind, a Scottish naval surgeon, in two books entitled respectively "An Essay on the most Effectual Means of Preserving the Health of Seamen" and "An Essay on Diseases Incidental to Europeans in Hot Climates" presented ideas on sanitation and prophylaxis that were far in advance of the times. He urged the segregation of recruits before they were allowed to mix with the crews of ships in commission, the adoption of a uniform costume for the sailors as a measure of cleanliness and to prevent infection, insisted on the necessity for ventilation, of keeping

the ships dry and rendering them more wholesome by ventilation and fumigation, and made many suggestions for the improvement of the seamen's diet, quarters, and general comfort. He recognized the value of cinchona as a prophylactic against malaria, and advised persons living in "aguish places" to take daily doses of tincture of bark, to smoke tobacco, and at night to keep closed windows looking toward marshy ground—all excellent suggestions to discourage the anopheles. He also devised several ingenious methods for obtaining fresh water at sea by means of distilling apparatus that could easily be improvised, a procedure that received the sanction of the Admiralty which in 1772 ordered all ships to be supplied with the necessary equipment. His most important contribution, however, is his "Treatise of the Scurvy" and since its appearance in 1753 no equally comprehensive volume was printed on the subject until Hess published his splendid monograph in 1920. He believed that the disease is due to a combination of factors, of which the lack of fresh vegetables is predominating but not exclusive, prolonged exposure to cold and dampness being also of importance, and cites evidence from actual experience at sea in support of his view. For example, the warrant officers who have the same ration as the men but sleep in warm, dry cabins and are better clothed are but "seldom attacked by the scurvy unless upon its most virulent rages and when the common sailors have been previously almost destroyed by it." As the result of many observations he convinced himself that oranges and lemons are the best antiscorbutics, the former slightly preferable, and describes a practical experiment made on H. M. S. *Salisbury* in 1747. He took twelve scurvy patients, their cases being as similar as possible, kept them all together in the same part of the ship and on the same diet, and tried on them six different forms of treatment then in vogue. Two of them were ordered each a quart of cider a day, two others took 25 drops of elixir of vitriol three times a day and used a mouth wash acidulated with the same preparation. Two more received two spoonfuls of vinegar three times a day,

having their gruels and other foods well acidulated with it as well as their mouth wash. Two others were obliged to drink half a pint of sea water daily, another pair were given two oranges and a lemon every day, while the remaining two unfortunates had to swallow three times a day a bolus the size of a nutmeg of a terrific electuary compounded of garlic, mustard seed, radish, balsam of Peru, and gum myrrh. In six days the lucky ones who got the oranges were well enough so that one could return to duty and his companion be appointed nurse to the other members of the group, while the rest, except those who had received the cider showed little or no improvement. Lind gives detailed directions for concentrating and preserving lemon and orange juice and for the similar treatment of vegetables and various berries. Spruce beer he says is the best anti-scorbutic of the fermented beverages and describes how it should be made. His remarks on the measures suitable for "remedying the inconveniencies" of spoiled provisions by indirection reveal how dreadful the food often must have been. After commenting on the difficulty of keeping the drinking water sweet, he says that there are two varieties of bad water; the first is putrid and stinking and the second so hard that it will not break peas when boiled in it, and he makes suggestions as to how these qualities may be lessened. The weevils and maggots in bread and other dry provisions are best killed by the fumes of brimstone, but even then they are found to be unwholesome for they are so caustic that when applied to the skin they raise a blister like cantharides. A better way is to put the material in a heap when the vermin will come to the top and may be taken away, stirring and repeating the heaping till as many as possible have been removed. Putrid beef and pork should have their bad qualities corrected by using plenty of vinegar, lemons, or vegetables, but he sadly comments that he is afraid that any method for sweetening putrid meat would not be easy to put into execution at sea.

Sir Gilbert Blane must be accounted one of the shining figures of a medical history. An excellently educated and trained physician, he was a man of great ability and force

of character, uniting in an uncommon degree scholarship and administrative capacity. For his personal bravery as shown during six engagements while Physician to the Fleet in the West Indies he received a pension from the Crown. Supported by his close friend Admiral Rodney he had more success than his predecessors in impressing the

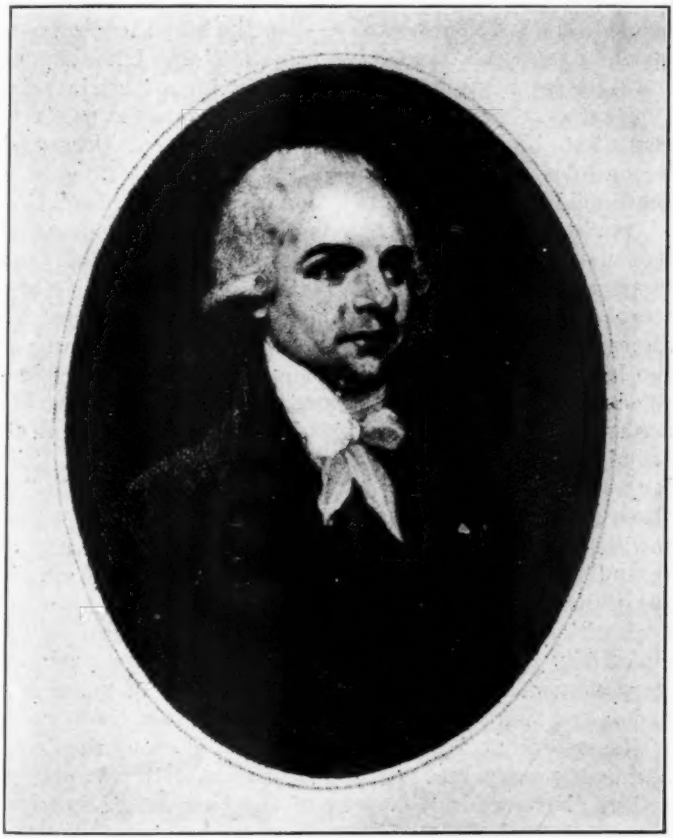


Sir Gilbert Blane, Bt., M.D., F.R.S. (*1749-1834*)
From an unfinished portrait by Sir Martin A. Shee, P.R.A.,
in the Royal College of Physicians of London.

authorities, and was able to introduce reforms which greatly improved the condition of the seamen and marked a new era in naval sanitation. A small book "A Short Account of the Most Effectual Means of Preserving the Health of Seamen" dated 1780 was followed five years later by an extensive treatise "Observations on the Diseases Incident to Seamen" which is a medical classic. Scurvy was exceedingly prevalent in the fleet, and in 1781 he reported officially that it was present to a degree that had never before existed in the West Indies, so that in the space of twelve months out of a force of 12,000 one man in seven died from this cause. This loss in man power was impressive even to administrative minds, the pocket nerve was touched, and the Admiralty acquiesced in the use of antiscorbutics and the sanitary regulations advocated by Blane, with the result that in a second memorial he was able to state that in 1782 the mortality had been reduced to one in twenty, and Rodney enthusiastically writes that in his own ship, the *Formidable,* owing to Blane's efforts out of 900 men not one was buried in six months. Blane constantly repeats that to Lind belongs the credit for definitely establishing the value of oranges and lemons as antiscorbutics, and states that the authors from which he has chiefly borrowed are Lind and Cook. Blane recognized the destructive action of heat on the antiscorbutic principle, and advised that when lemon or orange juice is to be kept for any length of time it should be preserved by the addition of a small quantity of spirits, for, he says: "If fire is used in the preparing it as in the form of a rob, I know for certain that its virtues are very much impaired." Blane later had a lucrative practice in London and was rewarded by a pension of a pound a day, a baronetcy, and many official appointments, and was often consulted by the government on matters of public health.

Less brilliant in the public eye and somewhat shadowed by his professional jealousy of Lind and Blane, was the career of Thomas Trotter, the third of the great naval sanitarians. While temporarily without employment in the navy he made a voyage as surgeon to a Liverpool

Guinea-man bound to the Gold Coast as a slaver. The market seems to have been depressed and there was a long delay in filling the ship, his recommendations as to the treatment and feeding of the living cargo were not followed, and there



Thomas Trotter, M.D. (*1760-1832*)

was a severe outbreak of scurvy which killed forty of the poor wretches crammed into the hold. On his return to England, horrified and disgusted by the experience, he

published a book "Observations on Scurvy" which was later amplified in a second edition after his appointment as Physician to the Channel Fleet had furnished further opportunities for observation. His conception of the disease was somewhat involved for he believed that it depended on a deficiency of oxygen in the blood leading to a lack of a supposed "acidifying principle" which he thought could be supplied by the administration of citric acid. While admitting the necessity of fresh vegetables as a preventative, he criticized Lind's advocacy of preserved lemon juice, which he felt was likely to be adulterated with acetic acid, and urged the adoption of concentrated solution of citric acid as a prophylactic, but this suggestion fortunately did not meet with favor. He succeeded Lind as physician to the Royal Naval Hospital at Haslar and wrote industriously on many and various subjects, for among his efforts are a tragedy "The Noble Foundling or the Hermit of the Tweed," a book of verse entitled "Seaweeds, Poems Written on Various Occasions Chiefly During a Naval Life" and an essay "De Ebrietate" on the medical, chemical and philosophical effects of drunkenness. The largest of his numerous books is "Medicina Nautica" a three decker of 1400 pages embodying his views on naval medicine and hygiene. These included the advocacy of compulsory vaccination and the adoption of a uniform for the seamen, ideas which were duly put into effect after the authorities had given them thoughtful consideration for about fifty years, the abolition of the pernicious system of impressment, improving the status and pay of naval surgeons, and many measures intended to increase the comfort of the sailors, such as the issue of soap, keeping the decks and bedding dry, and providing means of entertainment to relieve the terrible monotony of the long months at sea. He distinguished between gonorrhea and syphilis long before the difference was generally understood and opposed the injustice of compelling men infected with these diseases to pay for their treatment. At the risk, as he says, of being found murdered in the streets, he secured the reduction of the licensed gin shops in Plymouth from 300 to one-third of

that number. Altogether a kindhearted, able and courageous man, whose memory deserves a higher place than posterity has accorded it.

To these three names a fourth must now be added, that of a great commander who furnished a practical demonstration that has linked his fame with the abolition of scurvy at sea and led Oliver Wendell Holmes to say in one of his delightful medical essays that medicine had "learned . . . from a sailor how to keep off scurvy." Captain James Cook in his voyages of exploration maintained the health of his crews in a manner up to that time wholly unprecedented. On returning from his exploration of the South Seas which solved the question of the existence of a great southern continent, he presented a paper before the Royal Philosophical Society on March 7, 1776, in which he described the methods by which he had kept his men in health, and reported that the *Resolution* had "performed a voyage of three years and eighteen days, through all the climates from 52° North to 71° South, with the loss of one man only by disease, who died of a complicated and lingering illness [apparently tuberculosis] without any mixture of scurvy." For this he was awarded the Copley Medal of the Society given annually for the most important contribution to science, but later in the year when the President, Sir John Pringle, made his eloquently laudatory address of presentation, Cook was not there to hear, for he had already started on the voyage from which he was not to return. This was for further exploration in the South Seas and to attempt the discovery of the Northwest Passage from the Pacific side, and a monument on the island of Hawaii marks the site of his death at the hands of the natives. When the expedition reached England again after an absence of 4 years, 3 months and two days, the *Resolution* had lost only five men through sickness and her consort the *Discovery* not one. Cook laid especial stress on an abundance of good drinking water, cleanliness and keeping the ship and the men's clothing dry. He procured fresh vegetables whenever possible, and as other antiscorbutics depended chiefly on the wort of malt and on sourkrout and also considered portable soup or

Captain James Cook. (*1728-1779*)

broth an essential item. Fat and oil he believed were injurious and should be replaced by sugar. Strangely enough he was not much impressed by the value of the rob of lemons and of oranges, saying that the cost would prevent their being furnished in large quantities, and that "though they may assist other things, I have no great opinion of

them alone." His success in eliminating scurvy was made possible by the excellent sanitary regulations he formulated and by the vigilance with which he himself supervised the details of their enforcement, matters which most commanders had deemed beneath their dignity.

Sourkrout, which Cook had found so valuable, was added to the Navy ration in 1780, but it required the devastating outbreak of scurvy in 1795 and the pressure of Blane's insistent representations really to rouse the administration from its torpor. In that year lemon juice was at last made a regulation issue and after the ships had been a fortnight at sea each man received a fluid ounce daily. The procrastination of the Admiralty in this matter seems incredible—through it the safety of the Channel Fleet was jeopardized, and Robert Finlayson, a naval surgeon of the time, states that: "It is the opinion of some of the most experienced officers that the blockading system of warfare which annihilated the naval power of France could never have been carried on unless sea scurvy had been subdued."

In his "Study of Sociology" Herbert Spencer after discussing what he terms "the amazing perversity of officialism" continues: "But perhaps of all such illustrations the most striking is that which the treatment of scurvy furnishes . . . Two centuries after the remedy was known and forty years after a chief medical officer of the Government [Lind] had given conclusive evidence of its worth, the Admiralty, forced thereto by an exacerbation of the evil, first moved in the matter." From that time on scurvy appeared only sporadically in the navy and became so rare that in after years Blane had the satisfaction of being able to make the statement that "because of the issue of lemon juice there are now many surgeons in the Navy of long standing who have never seen a case of the disease."

The dilatoriness of the Admiralty in acting to protect the men of the navy was surpassed by the delay in enacting regulations for the benefit of the merchant marine. In 1854 a law was passed requiring merchant vessels to supply lemon juice (so-called lime juice) regularly to their crews

and in 1869 this was replaced by stricter legislation providing against the adulteration that had become prevalent and increasing the daily allowance from half an ounce to an ounce. In American merchant ships the issue of lime juice was never compulsory, but although the treatment of the men by the officers was worse than on British vessels the food was better and included such articles as dried apples, raisins, onions and potatoes, so that by the middle of the last century scurvy was seldom seen. In "Two years before the Mast" written in 1840, Dana remarks that scurvy is not so common now as formerly, but mentions that during the return voyage from the Pacific coast there were two severe cases on board his ship. Off Bermuda a supply of potatoes and onions was obtained from a passing vessel, and he dramatically describes the miraculous effect of this addition to the diet, which was so prompt that the patient most affected who had been lying helpless and hopeless in his bunk in ten days was aloft furling a royal.

Dutch seamen apparently suffered less from scurvy than those of other nationalities, perhaps because sourkrout had always been a staple in their sea ration. The contributions of French writers on the subject are not extensive, and Blane suggests that possibly the routine use of wine had antiscorbutic value. Bourdé de Villehuet in his "Manuel des Marins" of 1773 dismisses the subject by saying that no other remedies are known than staying on shore or the continuous use during thirty or forty days of the meat and soup of the green turtle. Perhaps this is an echo of Woodes Rogers' statement of seventy-five years before that in his circumnavigation he had treated his scurvy patients to the same delicacy with much benefit. Du Hamel du Monceau in his treatise "Moyens de Conserver la Santé aux Equipages des Vaisseaux" published in 1759 devotes considerable space to Lind's observations and quotes his methods for preserving lemon juice and vegetables. Monceau emphasizes the value of fresh fish, and recommends that ships be provided with fishing tackle so that it may be procured as often as possible. With true gallic interest in gastronomy he gives elaborate cooking recipes

for making some appetizing sounding vegetable stews and for preparing sourkrout and spruce beer, which latter he considers especially valuable as an antiscorbutic.

A striking chapter in the history of scurvy relates to its occurrence on the whaling ships, where it frequently added to the miseries of the already wretched life. Dana mentions it as very prevalent in whalers, Scoresby the great contemporary authority on the whale fisheries speaks of it as very alarming and Commander Wilkes of the U. S. Exploring Expedition of 1838-1842 relates that while the squadron was at Oahu several whalers arrived, all "more or less affected with this horrible disease." On one of them only three men were fit for duty, even though the vessel some time before had stopped at islands where an ample supply of fresh fruits and vegetables had been secured. Wilkes cites this as evidence that fresh provisions alone are not sufficient to prevent the disease but that rest, cleanliness and cheerfulness are essential. The arctic whalers nearly always suffered from it unless they were able to secure fresh meat from the Eskimos. One of the most graphic and extraordinary stories of privation and hardship is that given in the diary of Dr. Charles Edward Smith, surgeon to the whaler *Diana* of Hull, which in 1866 was beset in Baffin's Bay and for six months lay frozen in the ice. Of the forty-seven men on board only three escaped scurvy and thirteen including the captain, died. For his heroic and self-sacrificing services to the crew Dr. Smith received numerous public rewards and testimonials, and on his death a monument in his honor was erected in the old whaling town of Lerwick.

It is curious that although whale meat is a wholesome and palatable food much resembling beef, and of recent years a profitable industry has been developed in canning the meat of the whales taken in the antarctic by highly efficient modern methods, the whalemen of former times often faced starvation and scurvy, not to mention the dreadful monotony of their ordinary diet, without making use of the food value of the huge carcasses they turned adrift. While

the meat of the sperm whale is too oily to be edible that of the right whale is perfectly good, and it was a strange ignorance or prejudice that prevented its general use in the days of the great whaling fleets.

Although during the latter part of the 19th century scurvy was seldom seen under the ordinary conditions of life at sea, polar exploring parties continued to find it a problem, and cases have occurred as recently as on both of Scott's antarctic expeditions. In 1925 the British Privy Council published a report which in the light of modern knowledge explains a remarkable outbreak of scurvy which a commission of inquiry held by the Admiralty fifty years before had failed to elucidate. This refers to the famous Nares Arctic Expedition of 1875 in the *Alert* and the *Discovery* which was equipped with every known means to ensure the health of its members, including the regular issue of an abundance of lime juice. Notwithstanding this, a sledge party consisting of 53 officers and men in eleven weeks had three-quarters of its members badly crippled by the disease, one man dying and the others remaining in serious danger for weeks. This unfortunate occurrence seemed inexplicable, for on other arctic explorations, since the introduction of antiscorbutics there was no trouble from this cause, the McClure Expedition of 1850 being considered as a perfect demonstration of the protection afforded by lime juice as during twenty-seven months in the arctic there was no scurvy in spite of great hardships and privation. The report just mentioned points out that during the earlier years of the century it was not lime juice at all, but Mediterranean lemon juice that was being used. In the middle of the century because lime juice had greater acidity it was supposed to have more antiscorbutic power and was gradually substituted for lemon juice, so that by 1870 but little of the latter was issued officially. Lemon juice, however, retains its potency but lime juice though effective while fresh loses its value on preservation and becomes practically useless as a prophylactic. In our own times Steffanson has demonstrated the value of fresh

seal meat, preferably eaten uncooked, by keeping the members of his arctic parties in perfect health with this addition to the diet.

Thus closes the story of the conquest of sea scurvy, another chapter in the unending tale of man's struggle with his environment. To our sophisticated backward glance the contest seems to have been unnecessarily prolonged and the victory unduly deferred through singular ineptitude, but after all it is no mean achievement completely to have eradicated and stricken from the roster of human ills a disease that once was one of mankind's greatest scourges and actually inflicted a death of lingering misery on more men than ever were killed by naval warfare, storm and shipwreck and other hazards of the sea combined.

THE MEDICAL INFORMATION BUREAU OF THE NEW YORK ACADEMY OF MEDICINE

IAGO GALDSTON

When one of the few remaining absolute monarchs comes to America to have one of our surgeons operate upon him, there is created a news situation of major magnitude. The fact that the potentate is English-bred and English-trained makes his choice of an American surgeon more provocative. The people at large and the medical profession are naturally prompted to ask a multitude of questions. Curiosity and interest having been aroused to a high pitch, nothing but the most detailed discussion of the nature of the malady, the operation, its technical phases, and the human interest aspects of the panorama will suffice.

When an announcement is made in the press that on the West Coast two scientists have discovered a glandular extract which allegedly has yielded exceptionally good results in the treatment of cancer, the entire country is electrified with hope, expectation and eagerness to know more. When subsequently, it is proposed to establish in New York City a so-called clinic for the demonstration of this wonder-working serum, now substantially discredited by careful tests, a serious communal situation is created with more than news implications.

When a newspaper is offered an attractive advertising contract of a quasi-medical nature and it desires at one and the same time to accept the advertisement and yet not to do violence to its own ethical code, nor to offend the medical profession, such a newspaper is sorely in need of counsel and support from the medical profession.

These random, but representative situations taken from the large experience of the Medical Information Bureau, illustrate the type of problem which it faces and which have created a living need for its service. The Medical

Information Bureau was organized in 1928. In 1930 it was taken over by The New York Academy of Medicine. Since that time the Milbank Memorial Fund has made annual appropriations toward the support of the bureau.

The credo of the Medical Information Bureau was, at its foundation, set down in the following terms:

"From its earliest days the profession of medicine has been governed by a code of ethics which has served to maintain the lofty ideals of the followers of Aesculapius. Unhappily, this code has also served to insulate the profession against intimate contact with the public.

"Whatever may have been the forces and motives that moved the early lawmakers of medicine to instill an element of secrecy and aloofness into the governing principles of the profession, certain it is that the best interests of the physician and of the public are no longer served by this attitude. The recent and phenomenal progress of modern medicine, and particularly of preventive medicine, necessitates the development of a direct and intimate channel of communication between the practitioner and the community. This is essential, not only that the public may learn to take advantage of the constant advances of modern medicine, but to the end that it may be protected against the hordes of charlatans, quacks and misguided zealots who, strange to say, thrive more than ever in this day of presumptive enlightenment.

"In appreciation of the needs of our day and society, The New York Academy of Medicine and the Medical Society of the County of New York have established a joint Medical Information Bureau. The aims of this Bureau are to facilitate the dissemination of authentic medical information on medical and public health matters, to stem and curtail quackery and to promote a better understanding between the public and organized medicine."

These objectives are largely achieved through an organization which is simple in its structure and inclusive in its capacities.

Behind the Medical Information Bureau there is a body of expert opinion gathered from a group of consultants numbering approximately one hundred. These consultants are divided into specialty sub-groups, including all of the specialist branches of medicine. The consultants were selected and appointed by the Academy of Medicine and the Medical Society of the County of New York.

Consultation with the Bureau advisors may be of an individual or group nature and may take place either over the telephone, by correspondence or in conference. A simple telephone inquiry of a "spot news" nature received, say from a newspaper, may be answered within the space of ten to fifteen minutes. The inquiry is merely referred, again by telephone, to one of the appropriate consultants and his reply is then transmitted by the Bureau to the inquiring newspaper.

Where a concensus of opinion is required the inquiry may be addressed by letter to a number of consultants and the prevailing judgment is thus secured.

When the matter at issue is of an involved nature, it may be necessary to bring the consultants together for a joint meeting. At times such a conference may include the inquirer or his representatives.

Experience has shown that the vast majority of inquiries received by the Medical Information Bureau can be handled over the telephone with a minimum imposition upon the consultants. Next in order stand the consultations conducted by correspondence. Group conferences with consultants are only rarely required.

The consultants of the Medical Information Bureau are appointed from year to year. Practically all of the original members of this advisory group have served the Bureau throughout the five years of its existence. None of them has found occasion to complain of the burdensomeness of his task.

Since its organization the Bureau has handled during this period approximately 8,000 inquiries.

When the Bureau was founded appropriate announcement of its creation was made through the press. The response from the newspapers was immediately forthcoming. However, in the early months of its existence, it was necessary to call to the attention of a variety of agencies the Bureau's proferred services.

Personal interviews with a number of editors of daily, weekly and monthly publications served to acquaint them with some of the personnel and most of the objectives of the Bureau. Their suspicions as to the possible exercise of censorship by the Bureau, could in this wise be allayed.

The number of inquiries received by the Medical Information Bureau has increased steadily. Not only have the different agencies sustainingly addressed themselves to the Bureau but their number has multiplied from year to year.

The Administrative Staff

The Medical Information Bureau is operated by a full time staff consisting of an Executive Secretary, an Assistant and a Secretary. The policies of the Bureau are determined by an Executive Board appointed by the Council of The New York Academy of Medicine and by the Comitia Minora of the Medical Society of the County of New York. This Executive Committee meets monthly at the call of the Chairman. Moot questions and new points of issue are presented to the Executive Committee for decision. A set of principles governing the relation of the physician to the press, etc., have been formulated and published.

In its credo, the objectives of the Medical Information Bureau are defined as follows: (1) "to facilitate the dissemination of authentic information on medical and public health matters, (2) to stem and curtail quackery and (3) to promote a better understanding between the public and organized medicine."

The first of these objectives, the dissemination of authentic information, has an active and a passive phase.

Through the Associated Press the Medical Information Bureau issues a daily health article which is published in approximately 400 newspapers throughout the United States. These daily articles are rather unique in character. They do not represent the opinions or judgments of an individual, but rather the harvest of medical knowledge and practice. They are issued as of the Academy of Medicine. They contain basic information on personal hygiene, physiology and disease prevention. They are not meant to teach the reader self-diagnosis or self-treatment. Correspondence from readers is not invited. Questions on self-diagnosis or treatment are not answered. When inquiries of this nature are received, the correspondent is advised to consult his personal physician or, if unable to afford one, to apply to the nearest hospital or dispensary.

It is interesting to note that many physicians are among the readers of this health column as is witnessed by letters received from them asking for medical references pertaining to certain of the items which they read.

From time to time there is released to the press of the country properly prepared abstracts on medical addresses presented at the Stated or other meetings of the Academy and of the Medical Society of the County of New York. These scientific presentations are, so to say, predigested, simplified and rendered in a language intelligible to the lay reader. Such papers may vary in nature and scope from recently developed ideas on the treatment of pernicious anemia or the prevention of dental caries to matters of a public health and communal nature.

The Bureau has served both The Academy of Medicine and the Medical Society of the County of New York in presenting to the public the addresses of their officers, particularly when these have dealt with the relationship of medicine to the public. In this wise, the Bureau has contributed to the third of its objectives, namely, the promotion of a better understanding between the public and organized medicine.

The Medical Information Bureau assists newspapers and a variety of other periodicals in what is termed feature writing. Thus, a woman editor, desiring to conduct a one-man campaign against recurrent and exaggerated ideas on the hazards and hardships of motherhood, is helped in securing essential information on obstetrics and gynecology upon which she can build her journalistic creations.

An ambitious journalist, desiring to publish the known facts on the common cold, is helped in wading through the mass of available literature, and in securing more illuminating interviews with certain of the scientists who have devoted much labor to this perplexing problem.

No less important is the inactive or passive phase of the dissemination of authentic information. From time to time newspapers receive sensational reports of alleged marvelous discoveries of cures or remedies for a variety of diseases. These reports may emanate from any part of the globe, most frequently from abroad. Newspaper editors are not in position to evaluate these announcements. They will therefore consult the Bureau to check both on the source of the announcement and its probable authenticity. It is pertinent to note that the Bureau has never insisted on the suppression of reports of questionable discoveries. News is news, even though it may emanate from Baron Munchausen. The evil effect, however, is mitigated by having subjoined to the story a statement that, according to the Medical Information Bureau the above announcement is not established, not demonstrated, unknown, questionable or highly improbable.

A number of newspapers have even seen fit to include such qualifying warnings in the sub-title or sub-heading of the announcements.

The second of its three major objectives, namely, to stem and curtail quackery, the Bureau strives to achieve by indirect methods. Quackery is so thoroughly well organized, is so widespread, and is so devious in its procedures, that a frontal attack, to be effective, would require all the re-

sources of federal, state and local government. Furthermore, quackery only thrives as long as, and to the extent that there is available a gullible and credulous public, willing to be fooled.

It is in the nature of man to revel in the amazing, in the extraordinary. The glib charlatan, the prestidigitator, the facile scoundrel, will always have his audience, whether he mounts the tailboard of his caravan or the legislator's rostrum. And he will sell his tinsel wares to a number until time makes all men wise.

One might expect that as the frontiers of science are pushed forward, there would follow as a consequence a recession of ignorance and quackery. But experience teaches us that such expectations are merely wished-for ends and not necessarily consequential results. There was a time when the quack and the minstrel were inseparable. The oil torch flickered its smoky yellow light, the burnt cork comedian strummed his banjo, and the maestro with waxed mustachios and patent leather boots regaled a gathering of yokels with a spiel on rattlesnake oil.

To-day, however, quackery has gone modern. The quack uses technical terms with which to dazzle and mislead his gullible public. The man in the street lacks the code necessary to distinguish the genuine from the spurious. If viosterol can take the place of cod-liver oil and sunlight, why not irradiated massage cream? If radio is a fact and fever can be induced by electrical apparatus, why not, too, Abram's electronics? The newspaper-reading and the radio-listening public swallows the latest discoveries on cancer, psychoses or arthritis with its breakfast. And how shall it know better? It cannot evaluate the subtle differences in the various fields of achievement. It does not appreciate that when Langley flew his flying boat and the Wrights their airplane, flying was incontrovertibly an established achievement, while when Koch announced that tuberculin cured tuberculosis, it required several years to demonstrate his error.

Quackery must therefore be fought with knowledge—knowledge in a fitting form. The man in the street must, so to say, be taken behind the scenes and shown the ways of science. Its meaning, its elements, its methods and procedures must be interpreted to him.

It is in this fashion that the Medical Information Bureau attacks quackery. Through the press and through the radio it carries on a persistent campaign of education, not merely to "sell" the doctor to the public, but to acquaint the public with science as it relates to health. Persistent use is made of the radio. An Academy hour is conducted over the network of the Columbia Broadcasting System. This network extends over the entire country. In addition, a number of the city's local and network stations are used for the dissemination of medical information. All the radio talks given through the Medical Information Bureau are carefully scrutinized. Programs are arranged to suit particular audiences and an effort is made to render the radio addresses seasonal in nature and appealing.

In this field, the Medical Information Bureau serves practically all the health and social welfare agencies of Greater New York. The Medical Information Bureau secures time for the radio stations and apportions it to the various organizations for radio addresses or other types of programs devoted to their special field of interest. Of necessity, therefore, the radio program of the Bureau deals not only with strictly medical subjects, but also with public health and communal health problems.

The Medical Information Bureau also renders a service to the radio stations by advising them on commercial programs. The standing and acceptability of commercial products with a health element, their radio continuity and similar problems, are reviewed for the radio stations at their request. This relationship is, of course, only advisory. The Bureau does not exercise any censorship over the air.

The public at large, too, has learned to make use of the Bureau and addresses to it a variety of inquiries. The

nature of these inquiries is multiform. The request may be for the name of a general practitioner or a specialist, for the standing of a certain institution, etc., etc. Not a few bring to the Academy cures of various natures. The Bureau, of course, receives many questions from the public, to which no answer can be or is made.

Lastly, the Bureau is used by the medical profession in a variety of ways. Manuscripts prepared for publication in the lay press are submitted for review. Interviews with the press on current medical subjects are arranged through the Bureau. Problems relative to "ethical" procedures are frequently addressed to the Bureau for its counsel and judgment. Hospitals also refer to the Bureau certain of their problems arising out of their relationship with the press and public.

The Medical Information Bureau has found ample justification for its existence in the services which it has been enabled to render. But beyond this rather solid justification there is another one which is rooted in what might be called social philosophy. The systemic biologists and sociologists that flourished in the second Renaissance of the last century, were fond of comparing society to a highly organized and highly integrated living entity. Fascinated by the analogy between society and the living organism, they compared with a good deal of warrant certain social functional groups with homologous functional systems in the animal organism. The nervous system of the animal economy they compared to the so-termed intellectual group of the social organism.

There is an appealing fittingness in this analogy. Modern society is so complicated and so specialized, that for the integration of the whole it is imperative that certain groups of men dedicate themselves to the function of informing the rest of the social cells concerning what is going on in the world. In this sense the Medical Information Bureau is a part of and is contributing to the functions of what might be called the nervous system of society. If it were not for the bizarreness of the expression, the Infor-

mation Bureau might well be called the intelligence service of the medical profession, comparing it in a sense with the intelligence service of the army.

That this view of the Medical Information Bureau is not entirely fanciful is attested to by the fact that many medical associations throughout the country have shown a marked interest in the Bureau and some have established similar organizations. More than that, in the City of New York, the legal profession has followed suit and has also created an information bureau.

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NOVEMBER 3

The differential diagnosis and early treatment in acute abdominal conditions.

A consideration of what constitutes an acute abdominal condition: (a) gastro-duodenal zone: (b) gall bladder and bile ducts: (c) large and small intestines: (d) pelvis. The importance of the history and clinical examination of the patient, with a discussion of the pathological processes involved.

A summary of laboratory procedures that may be helpful.

A review of the surgical indications and a resumé of the operative procedures together with a discussion of pre-operative and post-operative treatment.

CHAS. GORDON HEYD, *Professor of Surgery, New York Post-Graduate Medical School.*

NOVEMBER 10

The doctor as marriage counsellor.

Types of premarital instruction and examination necessary to increase number of adjustments; early diagnosis of post-marital difficulties required to cure maladjustment. Rapid change in point of view on sex instruction and the physician's responsibility therein. What part of Germany's experience with 1,000 marriage advice stations we may utilize. Attitudes toward birth control, sterilization of unfit, and abortion. Summary of thirty years medical study of marriage and analysis of 1,000 case histories.

ROBERT L. DICKINSON, *Honorary Secretary of the National Committee on Maternal Health, Inc.*

NOVEMBER 17

Acute infections of the central nervous system from the standpoint of the practitioner.

Recent investigations have added much new information to our knowledge of the acute infectious diseases of the nervous system with regard to etiology, pathology and treatment. Important issues have been raised and new pathological groupings have been presented. A new inflammatory disease has been recognized in the last few years, and is becoming more and more common. Some well-known nervous diseases, which have always been regarded as degenerative processes, multiple sclerosis for example, will be considered in terms of a new perspective. Particular emphasis will be placed on the newer methods of treatment.

LOUIS HAUSMAN, *Associate Attending Neurologist, Bellevue Hospital.*

NOVEMBER 24

Differential diagnosis of pulmonary disease with special reference to tuberculosis.

The symptoms and the local evidences of disease of the lower respiratory tract are so similar in many maladies of different etiology that a thorough diagnostic survey may be needed to establish the nature of the pathological condition. The ubiquity of pulmonary tuberculosis and the protean manifestations of that disease may lead to diagnostic error unless the examiner be familiar with the usual and the unusual evidences of that infection, and unless he be informed of the conditions that may simulate it. The lecture will deal with the presentation of this thesis and with the ways of differentiating from tuberculosis some of the states mistaken for it.

CHARLES R. AUSTRIAN, *Associate Professor of Medicine, Johns Hopkins.*

DECEMBER 1

The surgical treatment of chronic arthritis.

Chronic arthritis is basically a medical disease, but not infrequently certain types of arthritis are accompanied by so much joint damage or chronic overgrowth of tissue, that medical treatment alone can hardly be expected to achieve a satisfactory result. In such cases, surgical treatment is indicated. In the lecture, the type of case suitable for such intervention is discussed together with the operative means and results of such treatment.

ARTHUR KRIDA, *Professor of Orthopedic Surgery, New York University.*

DECEMBER 8

Differential diagnosis and treatment of lymphosarcoma, Hodgkin's disease and allied conditions.

Hodgkin's disease, lymphosarcoma, leukemia and the allied conditions may affect any part of the body and should therefore be of interest to all practitioners of medicine. The more important and interesting features of these diseases will be discussed so as to bring out the differential diagnosis from a clinical point of view. The value of the biopsy and of the therapeutic-diagnostic test with radiation will be considered. Finally, the treatment by irradiation and other methods, and the general plan of management of the cases will be described.

LLOYD F. CRAVER, *Attending Physician, Memorial Hospital.*

DECEMBER 15

Acute rheumatic fever; a review of recent studies and their relation to the clinical features. (Lantern slides)

Etiology. Evidence for and against bacterial origin. Relation to pharyngitis, tonsillitis, scarlatina and other acute infections. Allergic factors. Climatic factors. Clinical phases in relation to pathologic findings. Prognosis. Treatment.

WILLIAM W. HERRICK, *Professor of Clinical Medicine, Columbia University.*

DECEMBER 22

The early diagnosis and treatment of syphilis.

A. BENSON CANNON, *Associate Professor of Dermatology, Columbia University.*

1934

JANUARY 5

Calculous disease of the urinary tract.

Distribution geographically; distribution anatomically; etiology and contributory factors; chemical composition; symptoms; diagnosis; conservative treatment; surgical treatment of kidney, ureter, bladder and urethral stones; modern controls of complete removal; postoperative attempts at prevention of recurrence; frequency of recurrence.

EDWIN BEER, *Visiting Surgeon, Mount Sinai Hospital.*

JANUARY 12

Newer work in allergy of interest to the practitioner.

Our understanding of the clinical manifestations of allergy has progressed so as to include nearly all the specialties. The practice of clinical immunology can no longer be limited to a so-called specialist in this field. An allergic influence has been proved in diseases coming under the domain of the ophthalmologist, the gastroenterologist, the neurologist, etc. Therefore, a competent practitioner must be thoroughly familiar with the varied clinical manifestations now attributed to specific hypersensitiveness. An attempt will be made to review in a brief and practical manner the present day concept of allergy, avoiding discussion of theories of interest primarily to the research worker. We will review classification, methods of diagnosis and treatment.

MAXIMILIAN A. RAMIREZ, *Director of the Department of Immunology, French Hospital.*

JANUARY 19

The tachycardias: Diagnosis and treatment.

A discussion of the tachycardias with reference to the etiological types of heart disease with which they are associated and a consideration of their differential diagnosis clinically. A consideration of various methods of treatment illustrated graphically by means of charts and electrocardiograms.

JOHN WYCKOFF, *Professor of Medicine, New York University.*

JANUARY 26

The anemias—etiology and treatment.

The role of dietary deficiency and the state of the gastro-intestinal tract in the production of anemia. The treatment of anemia by replacement therapy on a quantitative basis. The indications for liver and allied therapy and the ways to conduct such treatment orally and parenterally. The use of iron. The inhibitory effect of various factors on the regeneration of blood. The results of adequate treatment.

GEORGE R. MINOT, *Professor of Medicine, Harvard University.*

FEBRUARY 2

The endocrine glands and their relation to the diagnosis and treatment of obstetrical and gynecological conditions. **(Lantern slides)**

The dominance of the adenohypophysis, its relations and inter-relations with the thyroid, adrenals, pancreas and gonads. Clinical blood and urine tests showing the normal cyclical humoral conditions as well as the deviations in disease. Practical application of the tests in diagnosis. Endocrine therapy.

ROBERT T. FRANK, *Gynecologist to Mount Sinai Hospital.*

FEBRUARY 9

The clinical value of the newer laboratory tests.

A brief resumé of the clinical value of newer diagnostic laboratory examinations with their indications and interpretations is to be presented.

JOHN A. KOLMER, *Professor of Medicine, Temple University, Philadelphia.*

FEBRUARY 16

Significance and treatment of paranasal sinus infections in infants and adults.

The question of paranasal sinus diseases in adults: The localization of the lesion; its implication and significance to the practitioner. The question of focal infections; the distal and the local effects. Diagnostic data. Suggestions as to therapy; operative, non-operative. The question of paranasal sinus disease in infancy and childhood: The localization of the lesion; its implication and significance in regard to general growth and health and in facial and dental contours. The repeated colds of children. The influence of foods. Waldeyer's rings and adenitis in their relation to the diseases of the sinuses. The influence on the teeth. Diagnostic data. Suggested therapy; operative and non-operative.

SAMUEL J. KOPETZKY, *Professor of Otology, New York Polyclinic Medical School and Hospital.*

FEBRUARY 23

The story of renal tuberculosis.

A brief resumé of the past history of renal tuberculosis, stressing the factors which have made medical opinion swing to extremes. A presentation of the modern conception of the pathology of renal tuberculosis, basing thereon our diagnosis, treatment and prognosis. The status of today and a look into the future.

ALEXANDER RANDALL, *Professor of Urology, University of Pennsylvania.*

MARCH 2

Some newer remedies.

Our sources of information about newer drugs. Some groups of newer medicines with consideration of the difference in the pharmacological action of various drugs in the same group,—hypnotics, antiseptics for internal administration, anti-rheumatic remedies, drugs for anemias, etc.

WM. R. WILLIAMS, *Consulting Physician, New York Hospital.*

MARCH 9

Disorders of adolescence, from the standpoint of the pediatrician.

An analysis of behavior problems and a comparison of those encountered in private and institutional practice. The influence of early environment and control on functional nervous disturbances developing later. The psychiatrically minded pediatrician, and the pediatrically minded psychiatrist—their relative responsibility. These problems usually simple, depending more on parental attitude and home environment than age, sex or physical status of the individuals concerned.

HERBERT B. WILCOX, *Professor of Diseases of Children, College of Physicians and Surgeons, Columbia University.*

MARCH 16

Digestive troubles of the constitutionally inadequate.

So many of the patients seen by the gastro-enterologist appear to have functional troubles, and in many of these I believe the difficulty is a constitutional and inborn weakness of the body. Sometimes the whole body seems to be inadequate to the stress of life, and at other times the nervous system seems to be particularly at fault.

WALTER C. ALVAREZ, *Associate Professor of Medicine, University of Minnesota, Mayo Foundation.*

MARCH 23

The so-called 'erythema group' of dermatoses; and urticaria. A brief survey of interest to the practitioner.

The term 'erythema' has been loosely applied by pioneers in dermatology to a large variety of cutaneous conditions. Certain non-inflammatory and certain inflammatory and exudative dermatoses are classed traditionally under the 'erythema group' of skin diseases, and do not include the acute infectious exanthems.

FRED WISE, *Professor of Dermatology and Syphilology, New York Post-Graduate Medical School.*

THE PROGNOSIS OF HEART DISEASE*

R. T. Grant
London, England

Summary and Conclusions

1. The after histories of a group of 1,000 men suffering from heart disease have been followed for 10 years.

2. Only 13 of the 1,000 remain untraced; the after histories throughout the period are completely known for 70 per cent.

3. The diagnostic criteria used in the classification of the cases are defined. The cases are classified chiefly from two aspects (1) valve lesion, (2) exercise tolerance and cardiac enlargement.

4. Autopsy reports are available for 142 or one-third of the deaths. Comparison of clinical diagnosis with post-mortem findings shows that diagnosis of valve lesion is in general accurate. Between the clinical estimate of heart size and the weight of the heart after death the agreement is sufficiently close.

5. The after histories are characterized mainly by the following features:—

   (a) 51 per cent are known to be alive. Of these survivors at least 42 per cent have lived uneventfully throughout and with unchanged physical signs.

   (b) Auricular fibrillation, present originally in 10 per cent develops later in 8 per cent.

   (c) Subacute bacterial endocarditis, present initially in 7 per cent develops later in 5 per cent.

   (d) 47 per cent are known to have died.

6. Correlation of after history with the factors used in the classification shows that after history is to be foretold not so much by the presence or absence of valve defect

* *Delivered before The New York Academy of Medicine, May 16, 1933.*

or by the type of defect but much more closely by the degree of cardiac enlargement and by the grade of cardiac failure as estimated first by the exercise tolerance and secondly by the presence of venous congestion.

7. Prognosis is most satisfactory when based on cardiac enlargement and cardiac failure and is modified by associated findings.

8. On this basis the chief prognostic indications are:—

   (a) *Good prognosis*—cases with little or no enlargement and good or fair exercise tolerance. Only about one-fifth of these cases die; almost a half of them live uneventfully and unchanged.

   (b) *Poor prognosis*—cases with moderate enlargement and poor exercise tolerance. Half die within 10 years.

   (c) *Bad prognosis*—cases with great enlargement or congestive failure. Few survive. The average life in the presence of venous congestion is 2½ years.

9. The chief factors modifying these prognostic indications are:—

   (a) subacute bacterial endocarditis. The average life in its presence is 6 months. It develops mainly in cases of non-syphilitic aortic regurgitation (10 per cent).

   (b) the onset of auricular fibrillation influences unfavourably the general prognosis; the outlook in cases of established fibrillation depends on cardiac enlargement and exercise tolerance. In cases of congestive failure its presence influences favourably the immediate prognosis; the average life is increased to 5 years. It develops mainly in cases of mitral stenosis (20 per cent).

10. Prognosis within the groups of cases with aortic regurgitation, mitral stenosis, etc., is discussed for each group separately. Prognosis is least favourable

in aortic stenosis and syphilitic aortic regurgitation. There is no material difference in the death rate in those with non-syphilitic aortic regurgitation, with mitral stenosis, or with these lesions combined.

11. The general outlook for cases of valve defect is not so bad as is generally thought, even for syphilitic aortic regurgitation. The average life in cases with aneurysm is over 5 years and in its absence only 58 per cent of those with syphilitic aortic disease die within 10 years. Treatment with arsenic and mercury slightly but definitely prolongs life, treatment with potassium iodide does not.

LIBRARY NOTES

Gifts from Dr. Neumann

Dr. Ignac Neumann has presented to the Academy some interesting old pamphlets and manuscripts which have been on exhibition in the Library during the last two weeks of June and the first week of July. Among these are:

"An Abstract of the Patent Granted by His Majesty King George to Benj. Okell, the Inventor of a Medicine . . ." This was printed in London by J. Cluer, and reprinted in New York by John Peter Zenger in 1731.

A printed bill of mortality for Portsmouth, New Hampshire, in 1807, prepared by Dr. Lyman Spalding.

Photostat copies of various certificates given to Dr. Soloman Drowne (1754-1834), including a degree of M. A. from Dartmouth in 1771, signed by George Wheelock; a certificate from the Pennsylvania Hospital in 1774, signed by Thos. Cadwalader, John Redman and Saml. Pemberton; and one from the American Academy of Arts and Sciences, 1790, signed by James Bowdoin and Joseph Willard.

For the gift of these and other noteworthy documents we are very grateful to Dr. Neumann.

Helen Field

Recent Accessions

Bick, E. M. History and source book of orthopaedic surgery.
N. Y., Hospital for joint diseases, 1933, 254 p.

Dressler, W. Atlas der klinischen Elektrokardiographie.
Berlin, Urban, 1933, 50 cht.

Dressler, W. Die Brustwandpulsationen als Symptome von Herz- und Gefässkrankheiten.
Wien, Maudrich, 1933, 181 p.

Epifanio, G. La radiologia del peritoneo.
Napoli, Giannini, 1932, 211 p.

Jarrett, M. C. Chronic illness in New York City.
[N. Y.], Columbia Univ. Press, 1933, 2 v.

King's College Hospital. Medical and Dental Schools. Medicine for dental students.
Edin., Livingstone, 1933, 206 p.

Lusk, G. Nutrition.
N. Y., Hoeber, 1933, 142 p.

Mayrhofer, B. Lehrbuch der Zahnkrankheiten. 3. Aufl.
Jena, Fischer, 1933, 272 p.

Pensa, A. & Favaro, G. Trattato di anatomia sistematica.
Torino, Unione Tipografico-Editrice Torinese, 1933, v. 1.

Romagna Manoia, A. I fanciulli epilettici.
Roma, Pozzi, 1932, 186 p.

Wood, T. D. Selections from the addresses . . .
[N. Y.], 1932, 58 p.

Hours During the Summer

From June 15 until September 15 inclusive, the Library will be open on week days from 9 a.m. to 5 p.m., on Wednesdays from 9 a.m. to 10:30 p.m., and on Sundays from 10 a.m. to 5 p.m.

DEATHS OF FELLOWS OF THE ACADEMY

Abrahamson, Isador, B.S., M.D., 1185 Park Avenue, New York City; graduated in medicine from the College of Physicians and Surgeons, New York City, in 1894; elected a Fellow of the Academy, May 5, 1910; died, July 17, 1933. Dr. Abrahamson was a Fellow of the American Medical Association, a member of the American Neurological Association and the Neurological Society. He was Associate Neurologist to The Mount Sinai Hospital and Consulting Neurologist to Montefiore Hospital.

Burke, Martin, M.A., M.D., 147 Lexington Avenue, New York City; graduated in Medicine from Bellevue Hospital Medical College in 1876; elected a Fellow of the Academy, April 1, 1886; died, July 10, 1933.

OFFICERS OF SECTIONS AND AFFILIATED SOCIETIES, 1933-34

Dermatology and Syphilology, 1st Tuesday

Chairman	*Secretary*
Leo Spiegel	Eugene F. Traub
241 West 100 Street	140 East 54 Street

Surgery, 1st Friday

Ralph Colp	Guilford S. Dudley
111 East 88 Street	27 East 63 Street

Neurology and Psychiatry, 2nd Tuesday

Clarence P. Oberndorf	C. Burns Craig
112 West 59 Street	Fort Washington Ave. and W. 168 St.

Historical and Cultural Medicine, 2nd Wednesday of November, January, March and May

Russell L. Cecil	Jerome P. Webster
33 East 61 Street	180 Fort Washington Avenue

Pediatrics, 2nd Thursday

Martha Wollstein	Harry Bakwin
340 West 87 Street	132 East 71 Street

Ophthalmology, 3rd Monday

Webb W. Weeks	W. Guernsey Frey, Jr.
20 East 53 Street	121 East 60 Street

Medicine, 3rd Tuesday

Henry J. Spencer	Randolph West
24 West 10 Street	622 West 168 Street

Genito-Urinary Surgery, 3rd Wednesday

C. Travers Stepita	Augustus Harris
340 East 72 Street	306 Park Place, Brooklyn

Otolaryngology, 3rd Wednesday

Samuel J. Kopetzky	Wm. Wallace Morrison
51 West 73 Street	39 East 50 Street

Orthopedic Surgery, 3rd Friday

Paul C. Colonna	Leo Mayer
59 East 54 Street	140 West 79 Street

Obstetrics and Gynecology, 4th Tuesday

Frederick C. Freed	Harvey B. Matthews
59 East 54 Street	643 St. Marks Ave., Brooklyn

OUTSIDE SOCIETIES

Society for Experimental Biology and Medicine, 3rd Wednesday

President	*Secretary*
A. R. Dochez	A. J. Goldford
136 East 67 Street	City College, Convent Avenue and 139 Street

Harvey Society, 3rd Thursday

Alfred F. Hess	Edgar Stillman
16 West 86 Street	22 East 69 Street

New York Pathological Society, 4th Thursday

Paul Klemperer	Maurice N. Richter
378 Central Park West	630 West 168 Street

New York Roentgen Society, 3rd Monday

A. L. Loomis Bell	C. Wadsworth Schwartz
L. I. College Hospital, Brooklyn	33 East 68 Street